# **Attachment 4: Project Description**

#### **Status of the Basin:**

The Pajaro Valley is located approximately 100 miles south of the city of San Francisco, adjacent to Monterey Bay. The Pajaro River runs through the Valley and serves as the border between Santa Cruz County to the north and Monterey County to the south. The City of Watsonville (population 51,200) is a major urban area, located in Santa Cruz County (Figure 1). The Pajaro Valley Water Management Agency (PVWMA) boundaries encompass approximately 76,800 acres within Monterey County, Santa Cruz County, and a portion of San Benito County. The Agency is located within the Central Coast Region, Pajaro River Watershed (23-3305 - Figure 2). The Pajaro Valley groundwater basin is severely overdrafted, and has been for several decades, which has caused groundwater elevations to drop below sea level and lead to seawater intrusion as shown in Figure 3.



Figure 1. – Location Map

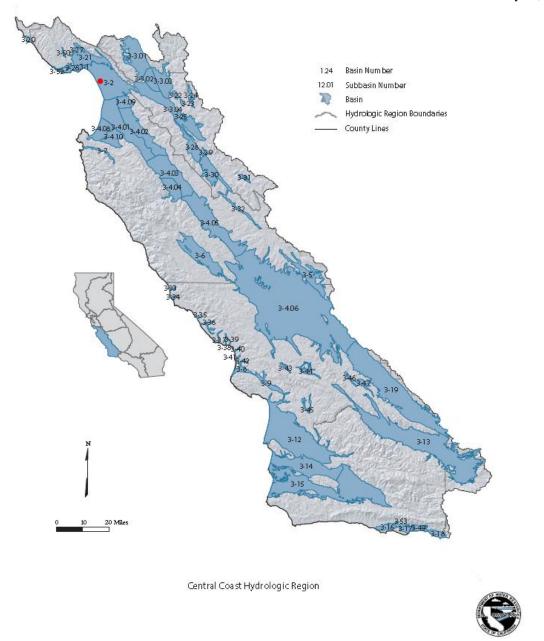


Figure 2.DWR Central Coast Hydrologic Region,
The red dot represents the approximate location of the project area.

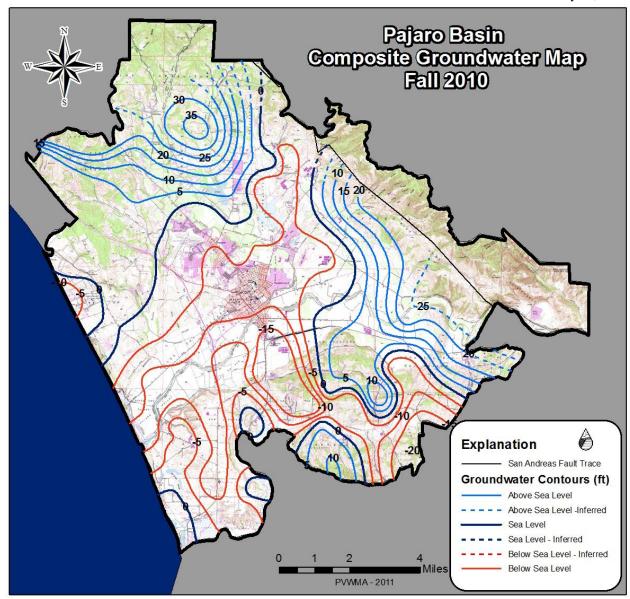


Figure 3. Groundwater levels below sea level in the Pajaro Basin

Seawater intrusion has caused chloride contamination of groundwater wells up to three miles inland as shown in Figure 4. Seawater intrusion is an immediate and direct threat to the Pajaro Valley economy. The elevated chloride concentrations make the groundwater unusable for irrigation of the high value, salt sensitive crops in the coastal region of the Pajaro Valley. Lost agricultural production has an estimated annual value of \$372 million and would result in the loss of approximately 11,530 jobs (Revised BMP EIS, PVWMA, 2004).

Summary of Seawater Intrusion Within All Chloride Concentrations in mg/L. Seawater Intrusion Contour Taken From Fugro West, 1995 **PVWMA Boundaries** Chloride 200 200 200 **Total Seawater Intrusion** Simulated by Basin Model 250000 200000 Acre Feet of Sea 150000 100000 50000 1990 247 mg/L in 1997 A West Location of 1500 Shaded area indicates Chloride Concentrations Above 100 mg/L Feet **Harkins Slough** Chloride 500 Water Table **MAR Project** Alluvial Aquifer Leaky Clay Layer 500 Confining Clay Layer Aromas Aquifer 1960 Pacific 1000 Purisima Aquifer Ocean 1500 를 1000 2000 Sedimentary Volcanic Rocks 3000 PVWMA Monitoring Chloride Concentration (mg/l) Wells Granite 3500 Cross Section Taken From Clark 1970 80 Predrought 60 4000 Drought 186 330 420 500 Miles 550 370 Taken From State of the Basin, PVWMA, 2000

Figure 4: Groundwater Wells Impacted by Seawater Intrusion

#### **Agency Collaboration and Coordination:**

PVWMA, along with other regional watershed stakeholders and agencies, have developed the Pajaro River Watershed Integrated Regional Water Management Plan (IRWM Plan). The Pajaro River Watershed IRWM Plan is a collaborative effort by the PVWMA, San Benito County Water District (SBCWD), and Santa Clara Valley Water District (SCVWD) to identify regional and multi-beneficial projects for the Pajaro River Watershed. On an individual basis, PVWMA, SBCWD, and SCVWD have each investigated and evaluated various water resource and environmental management options for the overall wealth and well being of the watershed within their jurisdictions. The IRWM Plan integrates these various efforts and investigates the greater Pajaro River Watershed area in order to identify and prioritize integrated regional projects for the watershed to maximize benefits to the broadest group of stakeholders in the region.

Additionally, PVWMA collaboratively developed a Basin Management Plan (BMP) that identified projects for balancing the basin and halting seawater intrusion. The BMP included a recommendation to stop coastal groundwater pumping and implement water supply projects that replaced the coastal supplies. The Agency is implementing the BMP, has constructed and is operating several components including the Harkins Slough Managed Aquifer Recharge and Recovery Facility, the Recycled Water Facility, blend wells and a connection to the City of Watsonville's potable water system. These facilities produce agricultural irrigation supply water which is distributed to growers through the Coastal Distribution System (Figure 5). At full operational capacity, the existing water supply facilities will produce approximately 7,000 acre-feet per year (AF/year). Total groundwater production within the delivered water zone is approximately 10,000 AF/year. This means the Agency does not have enough supplemental water to offset all groundwater pumping in the coastal zone. PVWMA is evaluating new projects and considering the improvement of existing facility operations to enhance water supply deliveries, including improvements to the Harkins Slough Project. In addition, a second Managed Aquifer Recharge (MAR) facility is being evaluated. Improving our understanding of the how to maximize the capacity of the Harkins Slough Project now, will help PVWMA staff and consultants design, construct and operate a second MAR facility.

Letters of support for this project are included in the appendix.

#### **Project Approach:**

The conceptual model for the Harkins Slough Project Recharge Basin was that the 15 acre facility would produce 1,100 AF/year of supply to the CDS. Currently the project is supplying 220 AF/year. This shortage of supply is 20% of forecasted production from the recharge facility. The Recharge Basin was constructed in summer 2000 and designed to percolate diverted storm flows from Harkins Slough that would have otherwise flowed into Monterey Bay (Figure 6), and store the water in an aquifer overlying the regional Aromas Red Sands Aquifer. Water stored in the subsurface is extracted throughout the irrigation season by a series of recovery (production) wells located around the recharge basin. As outlined in the BMP, recovered water is pumped directly into the CDS to offset coastal groundwater pumping, serving as in-lieu recharge. Over the past ten operational years, the recovery wells have not captured the percentage of recharged water for which they were designed.

Affecting the recovery of recharged water is the hydrogeology of the basin. In the original project concept, it was hypothesized that recharged water infiltrate into the sandy surficial aquifer and mound on a clay layer located a few below sea level and stratigraphically above the Aromas Red Sands Aquifer, separating it from the aquifer being recharged by the diverted slough water.

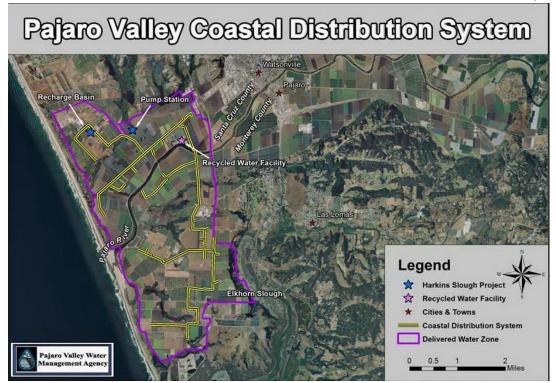


Figure 5 – Facilities Map



Figure 6 – Harkins Slough Managed Aquifer Recharge Facility

Through continued operation, monitoring and several grant-funded studies, Agency Staff has hypothesized that clay lenses, detected at around elevation 35 to 40 feet at several locations around the recharge basin are likely preventing a percentage of the recharged water from reaching the regional clay aquitard located just below sea level. These clay lenses do not appear to be continuous throughout the project area, as they have been detected in some recently drilled boreholes, but not in others (Figure 7).

The proposed Managed Aquifer Recharge & Recovery Study will determine the hydraulic properties of the shallow aquifer in three locations around the recharge facility. A better understanding of these properties will lead to a strategic approach of how to maximize the capacity of the facility. The concept behind this study is to construct three pairs of shallow monitoring wells that will be used to perform aquifer tests in three separate areas around the recharge basin to obtain high quality data about the hydraulic properties of the shallow aquifer. The wells will be constructed such that the perforated casing ends just above the clay found at approximately 35 feet elevation (Figure 8). Constructing wells in this manner will allow staff to perform aquifer tests within the section of the aquifer receiving direct recharge from project operations. Knowing the hydraulic properties of the shallow aquifer above the 35-foot clay is essential to determining feasibility of constructing a network of shallow recovery (extraction) wells that would be used to efficiently capture recharged water for distribution to coastal ranches within the valley suffering from salt water intrusion.

#### **Ongoing Use:**

Following the completion of the LGA grant funded study, the proposed wells will continue to be monitored along with existing wells for years to come. Results are presented at numerous types of meetings to inform, educate and share information not only to customers, members of the public and the board, but also colleagues at technical conferences. Spanish language materials are developed alongside English, and translation is available at many meetings. (See Appendix for recent agendas of several types of meetings). Data from the monitoring network are used to populate, calibrate, and enhance a groundwater flow model built in 2011 to simulate operations and climate. Funding to continue monitoring at the project is and will continue to be provided through fees the Agency collects to manage the basin. As our understanding of hydrogeology improves, so too will our ability to efficiently recharge and recover the rainy season's high flows. Maximizing the capacity of this facility, a key component of the Basin Management Plan, is crucial to the long-term sustainability of the Pajaro Valley.

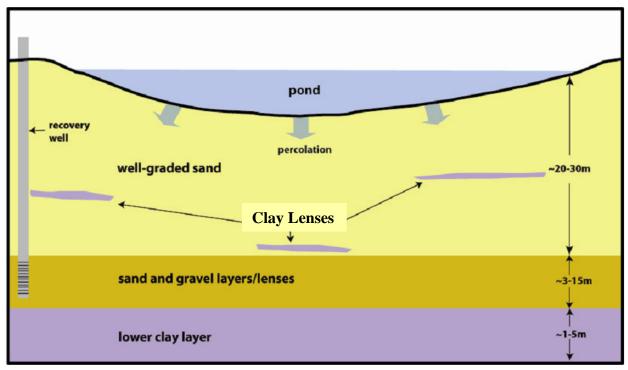


Figure 7: Schematic cross-section beneath the Harkins Slough Recharge Basin (modified from Haines et al., 2009)



Figure 8: Cuttings from a recent borehole at the recharge basin, with the clay located at 35 ft elevation highlighted in red. Each box represents a 10-ft interval of cuttings, moving from left to right. Above the clay is 80 ft of sand.

# **APPENDIX**



email: info@pvwma.dst.ca.us • http://www.pvwma.dst.ca.us

# **OWNERS / GROWERS MEETING**

# **Coastal Distribution System Delivered Water Users**

U.C. Cooperative Extension Building 1432 Freedom Boulevard, Watsonville, CA 95076

> Friday, March 23<sup>rd</sup>, 2012 Time: 10:00 a.m. – 12:00 p.m.

\*Lunch will be provided & Spanish translation will be available\*

I.	Welcome and Purpose of Meeting – Mary Bannister, General Manager, PVWMA	5 min
II.	Agency Update - Rosemarie Imazio, Board Chair, PVWMA	10 min
III.	History of Service Provided – Jesus Martinez, Sr. Water System Operator	15 min
IV.	Delivered Water Quality – Brian Lockwood, Hydrologist, PVWMA	10 min
V.	Soil Salinity Update – Belinda Platts, Agricultural Consultant	15 min
VI.	Irrigating with Recycled Water - Guest Speaker	10 min
VII.	Irrigation and Nutrient Management (INM) Program – Marcus Buchanan, INM Consultant for the Resource Conservation District of Santa Cruz County	15 min
/III.	Questions and/or Comments – $All$	30 min
IX.	Closing Remarks – Mary Bannister	5 min



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# REUNION DE DUEÑOS Y CRECEDORES

## Usuarios del sistema de distribución en la zona costera

U.C. Cooperative Extension Building 1432 Freedom Boulevard, Watsonville, CA 95076

Viernes, dia 23 de Marzo, 2012 Hora: 10:00 a.m. – 12:00 p.m. \*Se proveera comida y traducción en Español\*

I.	<b>Bienvenida y propósito de la reunión</b> – Mary Bannister, Gerente General, PVWMA	5 min
II.	Información actualizada de la Agéncia – Rosemary Imazio, Directora, PVWMA	10 min
III.	<b>Historia del servicio (CDS)</b> – Jesus Martinez, Sr. Water System Operator, and/or Shinehah Shibata, Water System Operator, PVWMA	15 min
IV.	Calidad del Agua del Sistema – Brian Lockwood, Hidrologyst, PVWMA	10 min
V.	Salinidad del suelo y Manejo de Nutrientes – Belinda Platts, Asesora en Agricultura	15 min
VI.	Usando Agua Reciclada – Invitado	10 min
VII.	<b>Riego y Manejo de Nutrientes (RMN)</b> – Marcus Buchanan, Consultant for the Resource Conservation District of Santa Cruz County	15 min
VIII.	Preguntas/Comentarios	30 min
IX.	Comentario de clausura – Mary Bannister	5 min



#### PAJARO VALLEY WATER MANAGEMENT AGENCY

36 Brennan Street • Watsonville, CA 95076 Tel: (831) 722-9292 Fax: (831) 722-3139

email: info@pvwma.dst.ca.us • <a href="http://www.pvwma.dst.ca.us">http://www.pvwma.dst.ca.us</a>

March 16, 2012

Subject: SAVE THE DATE!! Important Owner/Grower Meeting on March 23, 2012

Dear Owner / Grower,

Please save the date of Friday, March 23<sup>rd</sup> from 10:00 a.m. until 12:00 p.m., for an Owners / Growers Meeting. During the meeting we will discuss topics directly related to receiving water from the Coastal Distribution System (CDS), such as: irrigating with recycled water, operation of the CDS, and quality of delivered water. Existing delivered water customers will be encouraged to speak about their experience using project water, and ample time will be allotted for questions and comments from the entire group. All are encouraged to attend.

To learn more, please visit our website (<u>www.pvwma.dst.ca.us</u>) and feel free to contact me at the office at 831-722-9292 x 15. I look forward to seeing you at the upcoming meetings.

Sincerely,

Mary Bannister General Manager

Mary Bannister

Enclosure: meeting agenda



email: info@pvwma.dst.ca.us • http://www.pvwma.dst.ca.us

#### 16 de Marzo del 2012

#### iiGUARDE LA FECHA!!

#### Reunión importante Propietario/Cultivador el 23 de Marzo del 2012

Estimado Propietario/Cultivador,

Guarde por favor la fecha del viernes, 24 de Marzo de 10:00am hasta las 12:00 de la tarde, para asistir a la reunión Propietarios y cultivadores . Durante la reunión, discutiremos temas directamente relacionado con el Sistema de Distribución en la zona Costera. (CDS), tales como: usando el agua reciclada, operación del Sistema CDS, y calidad del agua. Los usuarios actuales serán invitados a comentar acerca de su experiencia utilizando el agua del proyecto, y habrá suficiente tiempo para preguntas y comentarios del grupo entero. Todos están cordialmente invitados a asistir.

Para aprender más, por favor visite nuestro sitio en la red (<u>www.pvwma.dst.ca.us</u>) siéntase libre de llamarme en la oficina 831-722-9292 X 15. Espero verle en las próximas reuniones.

Sinceramente,

Mary Bannister Gerente General

Mary Bannister

Enclosure: meeting agenda

#### PAJARO VALLEY WATER MANAGEMENT AGENCY



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email: info@pvwma.dst.ca.us • http://www.pvwma.dst.ca.us

Board of Directors Meeting June 28, 2012, 7:00 p.m.

City Council Chambers 275 Main Street, 4<sup>th</sup> Floor Watsonville, CA 95076

#### SPECIAL MEETING MEETING AGENDA

#### **Americans with Disabilities Act**

The City Council Chambers is an accessible facility. If you wish to attend a meeting and you will require assistance in order to attend and/or participate, please call the Agency at (831)722-9292 in advance of the meeting and every effort will be made to accommodate your attendance and participation.

Agenda Item Page #

Note: The Board may take action on any item listed on the agenda.

- 1. Call to Order
- 2. Roll Call of the PVWMA Directors: Rosemarie Imazio (Chair), David Cavanaugh (Vice-Chair), John G. Eiskamp, Rich Persoff, Dennis Osmer, Dwight Lynn, and Salvador Vasquez.
- 3. Pledge of Allegiance
- 4. Oral Communications

This time is set aside for members of the general public to address the Board of Directors on any item not on the Agenda, and that is within the subject matter jurisdiction of the Board of Directors. Each speaker is allotted up to 3 minutes. No action or discussion shall be taken on any item presented except that the Board may respond to statements made or questions asked, or may ask questions for clarification. All matters of an administrative nature will be referred to staff. All matters pertaining to the Board may be scheduled for discussion at a future meeting or referred to staff for clarification or a report, at the pleasure of the Board.

- 5. Director Comments
- 6. Counsel Report
- 7. General Manager Report
- 8. Consent Agenda

All items appearing on the Consent Agenda are recommended actions which are considered to be routine and will be acted upon as one consensus motion. Any items removed will be considered immediately after the consensus motion. The Board Chair will allow public input prior to the approval of the Consent Agenda.

- A. Approve May 16, 2012 minutes.
- B. Approve Financial Reports for May 2012.
  - 1. Chair entertains Board member request for removal of items

This agenda is subject to revision and may be amended prior to the scheduled meeting. If amended, a Final Agenda will be posted at the PVWMA offices at 36 Brennan Street, Watsonville, 72 hours prior to the meeting. Copies of the Final Agenda will be available at the Board Meeting. This Agenda shall be made available upon request in alternative formats to persons with a disability, as required by the Americans with Disabilities Act of 1990 (42 U.S.C. Sec. 12132) and the Ralph M. Brown Act (Cal. Govt. Code Sec. 54954.2). Persons requesting a disability-related modification or accommodation should contact PVWMA at (831) 722-9292 during regular business hours, at least 24 hours prior to the time of the meeting.

- 2. Questions from Board
- 3. Public comment
- 4. Board discussion and deliberation
- Board action

#### 9. Discussion and/or Action Items

- A. Receive presentation on Basin Management Plan Update effort.
  - 1. Introduction by staff
  - 2. Questions from Board
  - 3. Public comment
  - 4. Board discussion and deliberation
  - 5. Board action
- B. Receive Presentation from the Santa Cruz County Resource Conservation District regarding the Wireless Irrigation Network (WIN) and Consider approval of Access Agreement.
  - 1. Introduction by staff
  - 2. Questions from Board
  - 3. Public comment
  - 4. Board discussion and deliberation
  - 5. Board action
- C. Conduct Public Hearing on the Revised Preliminary Budget for 2012-13 Fiscal Year.
  - 1. Introduction by staff
  - 2. Open Public Hearing
  - 3. Close Public Hearing
- D. Consider Adoption of the Revised Preliminary Budget for 2012-13 Fiscal Year.
  - 1. Introduction by staff
  - 2. Questions from Board
  - 3. Public comment
  - 4. Board discussion and deliberation
  - 5. Board action
- E. Consider Approval of Resolution 2012-06 Authorizing General Manager to Apply for and Accept AB303 Grants.
  - 1. Introduction by staff
  - 2. Questions from Board
  - 3. Public comment
  - 4. Board discussion and deliberation
  - 5. Board action
- F. Consider Approval of Resolution 2012-07 Certifying Compliance with State Law with Respect to the Levying of General and Special Taxes, Assessments, and Property-Related Fees and Charges (Management Fees).
  - 1. Introduction by staff
  - 2. Questions from Board
  - 3. Public comment
  - 4. Board discussion and deliberation
  - 5. Board action

#### 10. Monthly Reports/Presentations

#### A. Project Operations Report

- 1. Receive 2012 Project Delivery Update
- 2. Receive Harkins Slough Project Update
  - a. Pump Station maintenance
  - b. January 2012 flooding
- B. Board Committee Reports (agendas, minutes and packets from last meetings)
  - 1. Administrative Finance Committee
  - 2. Ad Hoc BMP Committee
- C. New Website Introduction

#### **11. Written Communication/Correspondence:** May – June 2012.

#### 12. Future Meetings

- B. Administrative/Finance Committee Tuesday, July 10, 2012, 12:30 –1:30 p.m., PVWMA Conference Room, 36 Brennan Street, Watsonville.
- C. Salt & Nutrient Management Plan Meeting Tuesday, July 17, 2012, 9:00 a.m. 12:00 p.m., UC AG Extension, 1432 Freedom Blvd., Watsonville.
- D. Board of Directors Wednesday, July 18, 2012, 7:00 p.m., City Council Chambers, 275 Main Street, Fourth Floor, Watsonville.
- E. Water Quality Project and Operations Committee Wednesday, July 25, 2012, 3:00 4:00 p.m., PVWMA Conference Room, 36 Brennan Street, Watsonville.

#### 13. Future Agenda Items

#### 14. Closed Session

#### A. CONFERENCE WITH REAL PROPERTY NEGOTIATORS

Property: Santa Cruz County APN 052-581-06

Agency Negotiators: General Manager, General Counsel

Negotiating Parties: PVWMA, Prudential Agricultural Investments

#### 15. Adjournment



### PAIARO VALLEY WATER MANAGEMENT AGENCY

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# WATER QUALITY AND PROJECT OPERATIONS

# **COMMITTEE MEETING**

Pajaro Valley Water Management Agency 36 Brennan Street, Watsonville, California 95076

> Wednesday, January 18, 2012 Time: 3:00 p.m. to 4:00 p.m.

Mission Statement: The Water Quality and Project Operations Committee serves to advise the Board and Staff of the Pajaro Valley Water Management Agency on programs related to water supply, quality and operations related to Basin Management Plan facilities. The Committee also serves to communicate issues and concerns regarding water quality and project operations between the Agency, landowners and growers within the Agency's service area.

### Meeting No. 32

### AGENDA

- 1. Welcome and Introductions
- 2. Public and Member comments
- 3. Review and Accept Minutes of Prior Meeting
- 4. Current Operations Update
- 5. Discuss Strategy to Increase Supplemental Water Deliveries
- 6. Water Quality Update
- 7. Discuss and Plan for February 24th Grower Meeting
- 8. Discuss Additional Future Water Quality and Project Operations Committee Agenda Items
- 9. Next Meeting: TBD
- 10. Adjourn

PVWMA is a state-chartered local Agency formed "to efficiently and economically manage existing and supplemental water supplies in order to prevent further increase in, and to accomplish continuing reduction of, long-term overdraft and to provide and insure sufficient water supplies for present and anticipated needs within the boundaries of the Agency. It is anticipated that long-term overdraft problems may not be solved unless supplemental water supplies are provided. The water management Agency should, in an efficient and economically feasible manner, utilize supplemental water and available underground storage and should manage the groundwater supplies to meet the future needs of the basin." This agenda is subject to revision and may be amended prior to the scheduled meeting. If amended, a Final Agenda will be posted at the PVWMA offices at 36 Brennan Street, Watsonville, 72 hours prior to the meeting. Copies of the Final Agenda will be available at the Board Meeting. This Agenda shall be made available upon request in alternative formats to persons with a disability, as required by the Americans with Disabilities Act of 1990 (42 U.S.C. Sec. 12132) and the Ralph M. Brown Act (Cal. Govt. Code Sec. 54954.2). Persons requesting a disability-related modification or accommodation should contact PVWMA's Administrative Division Manager at (831) 722-9292 during regular business hours, at least 24 hours prior to the time of the meeting.

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# WATER QUALITY AND PROJECT OPERATIONS COMMITTEE MEETING

Pajaro Valley Water Management Agency 36 Brennan St., Watsonville, California 95076

**Tuesday, November 22, 2011 Time: 3:00 p.m. to 4:00 p.m.** 

### **MEETING #31 MINUTES - DRAFT**

#### **Meeting Attendees:**

Dale Huss Warren Koenig
Rosemarie Imazio Mary Bannister
Brian Lockwood Belinda Platts
Shinehah Shibata

- **1.** Welcome and Introductions. Dale called the meeting to order at 3:05 p.m.
- **2. Public and Member comments**. Mary updated the Committee on the Pendry Et AL lawsuit. She also updated the Committee on Harkins Slough maintenance. Dale noted that the CCRWCB will be volting on the conditional ag waiver in March 2012.
- **3. Review and Accept Minutes of Prior Meeting.** Dale moved approval Mary seconded; the minutes of the Water Quality and Project Operations Committee meeting #30 were approved.
- 4. Current Operations Update. Shinehah gave the operations update: over 2,500 AF of irrigation supply water has been delivered to date through the CDS, of which nearly 1,855 AF was recycled water, representing ~74% of the total water supplied. Year to date, delivered water in 2011 is less than that for the same time period in 2010. Belinda asked why is the difference between the volume reported in the demand survey and the actual volume delivered so large. Roundtable discussion ensued. A discussion of the Demand Survey followed. The committee decided to blend the Demand Survey and the Irrigation Decision Making Practices Survey, noted below, into one survey. The survey will be mailed ASAP. Dale noted the temperature was significantly cooler this summer. Shinehah updated the committee on the electrical conductivity (E.C.) sensor at the recycled water facility. Brian summarized the process used to set the E.C. threshold values after passing the first threshold, an alarm notifies the operators, and once the second threshold is surpassed, potable blend water turns on automatically. Shinehah also described ongoing work at the Harkins Slough recharge basin, including sediment management measures.

- **5. Water Quality Update.** Brian presented water quality results. Since April 1<sup>st</sup> 2009, staff has collected 245 water quality samples from turnouts. The long-term average concentration of selected constituents is as follows: Total Dissolved Solids 620 mg/L; Chloride 105 mg/L; Sodium 96 mg/L; Nitrate as NO<sub>3</sub> 24; SAR 2.57; E.C. 1.05 dS/cm. Brian also presented the results of a CDS source water analysis. Warren inquired about fluctuations in nitrate concentration.
- 6. Discuss Master Reclamation Permit (MRP) for Distribution of Recycled Water Annual Report Items. Brian briefly summarized the components of the MRP Annual Report. Belinda distributed and described the Irrigation Decision Making Practices Survey.
- 7. Discuss Future Water Quality and Project Operations Committee Agenda Items. February Grower's Meeting.
- **8. Next Meeting:** Tuesday, January 11, 2011, at 3:00 p.m. Growers Meeting tentatively scheduled for February 24, 2011.
- 9. Meeting Adjourned at 4:05 p.m.

# **Production Monthly Summary 2011**

Day	January	February	March	April	May	June	July	August	September	October	November	December	Individual Totals
HS Daily Production													
Influent RW Diverted (Ac-Ft)	189.050	155.374	179.619	211.287	147.542								882.9
Effluent FW to Basin (Ac-Ft)	181.099	148.723	172.091	194.669	143.741								840.3
Filter Backwash (AF)	7.951	6.651	7.528	16.618	3.801								42.5
Well Production													
RW #1 (Ac-Ft)	0.000	0.000	0.000	0.000	1.031	6.029	7.242	6.504	5.885	2.721	1.801	3.504	34.72
RW #2 (Ac-Ft)	0.756	1.442	0.551	3.862	4.596	5.291	6.839	6.575	5.875	2.554	1.651	3.591	43.58
RW #3 (Ac-Ft)	0.340	0.788	0.703	3.680	4.366	5.495	7.604	5.695	4.752	0.552	1.227	2.839	38.04
RW #4 (Ac-Ft)	1.021	1.139	0.619	3.832	4.935	6.188	7.322	7.355	6.484	2.878	1.984	3.867	47.62
RW #5 (Ac-Ft)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
RW #6 (Ac-Ft)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
RW #7 (Ac-Ft)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
RW #8 (Ac-Ft)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
RW #9 (Ac-Ft)	0.475	1.041	0.539	3.925	4.562	4.743	5.102	4.786	3.810	1.776	1.783	1.906	34.45
RW #10 (Ac-Ft)	1.419	0.000	0.000	0.000	1.568	8.568	10.208	10.409	9.311	4.056	2.655	5.262	53.46
Recovery Wells Sub Total (Ac-	4.011	4.410	2.412	15.299	21.058	36.314	44.317	41.324	36.117	14.537	11.101	20.969	251.87
Blend Wells													
SW #1 (AF)	6.396	7.862	0.408	4.132	9.867	0.328	0.725	0.995	2.284	0.233	1.568	1.322	36.12
SW #2 (AF)	1.384	14.127	0.000	3.152	13.276	0.684	3.554	4.880	8.541	0.012	4.526	30.498	84.63
		I				T	T	I	1		I		
RWF Blend (Ac-Ft)*	52.634	24.253	33.382	233.812	292.112	330.456	398.682	370.530	292.987	88.898	99.150	158.256	2375.15
System Total (Ac-Ft)	64.43	50.65	36.20	256.40	336.31	367.78	447.28	417.73	339.93	103.68	116.35	211.05	2747.78

\* ESTIMATED Recycled Water Blend Breakdown:

Est. Recycled Water(Ac-Ft)	out of s	service	30.341	187.630	239.112	302.433	359.444	348.346	254.768	77.662	68.670	99.153	1967.56
RWF No_1 (potable) (Ac-Ft)	49.933	23.558	3.041	46.182	53.000	28.023	39.238	22.184	38.219	11.236	30.48	59.103	404.20

Percentage of System Total:

Recovery Wells Supplemental Wells Recycled Water

9% 4% 72% Potable Water

15%

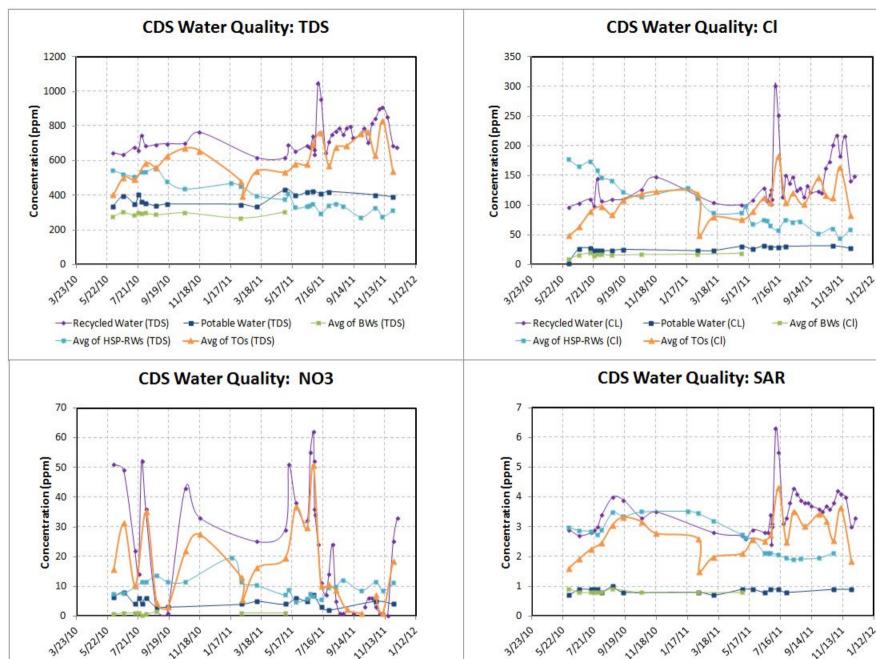
# Comparison of Delivered Water Demand, Actual Delivered Water Produced, and Well Water Used in the Delivered Water Zone

	2010	2011	2012
Delivered Water Demand			
(Demand Survey)		4646	4565
Actual Delivered Water Produced	2614	2748	
	2014	2140	
Delivered Water Zone			
Metered Well Usage	6293	5971	

Laboratory results from Coastal Distribution System water samples collected from Turnouts between April 1<sup>st</sup> 2009 (following the beginning of recycled water production) and Decmber 1, 2011.

				Average of SAR		Average of	Average of		
	Number of	Average of	Average of	(Sodium		Specific	Total Diss.		
	Samples	Chloride	Nitrate as	Adsorption	Average of	Conductance	Solids		
Season	Collected	(mg/L)	NO3 (mg/L)	Ratio)	Sodium (mg/L)	(E.C.) (dS/cm)	(mg/L)		
First Quarter 2009	Recy	Recycled Water Facility begins treating water for agricultural irrigation on March 27, 2009							
Second Quarter 2009	65	101	27	2.32	90	1.03	620		
Third Quarter 2009	46	127	32	2.81	109	1.13	700		
Fourth Quarter 2009	15	79	11	2.14	81	0.93	594		
First Quarter 2010	3	48	11	1.33	47	0.65	422		
Second Quarter 2010	24	88	23	2.26	85	0.93	526		
Third Quarter 2010	25	94	12	2.73	99	0.97	559		
Fourth Quarter 2010	7	122	25	2.94	110	1.19	665		
First Quarter 2011	8	74	13	1.88	64	0.79	480		
Second Quarter 2011	22	98	38	2.55	92	1.01	621		
Third Quarter 2011	25	129	8	3.34	121	1.26	686		
Fourth Quarter 2011 (thru Dec 1)	12	117	10	2.69	99	1.20	675		
Running Total & Averages	252	105	23	2.57	96	1.05	622		

All samples are analyzed by an Environmental Laboratory Accreditation Program (ELAP) certified lab.



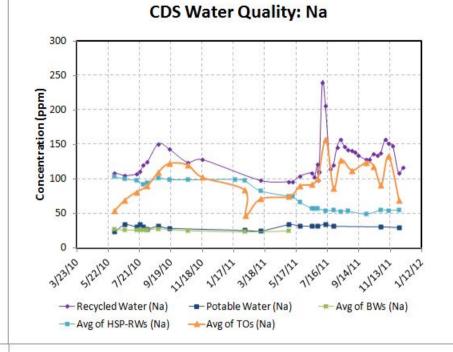
Avg of HSP-RWs (SAR)

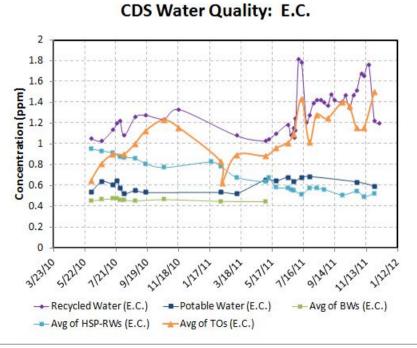
--- Avg of TOs (SAR)

-- Potable Water (NO3)

Avg of HSP-RWs (NO3) —Avg of TOs (NO3)

-- Avg of BWs (NO3)





- Avg of BWs (SAR)



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## **OWNERS / GROWERS MEETING**

# **Coastal Distribution System Delivered Water Users**

U.C. Cooperative Extension Building 1432 Freedom Boulevard, Watsonville, CA 95076

> Thursday, February 24<sup>th</sup>, 2011 Time: 10:00 a.m. – 12:00 p.m.

\*Lunch will be provided & Spanish translation will be available\*

I.	<b>Welcome and Purpose of Meeting</b> – Mary Bannister, General Manager, PVWMA	5 min
II.	Agency Update – Dave Cavanaugh, Director, PVWMA	5 min
III.	Steps to Receiving Delivered Water – Jesus Martinez, Sr. Water System Operator, and/or Shinehah Shibata, Water System Operator, PVWMA	10 min
IV.	<b>Project Operations Update and Priority Scheduling</b> – Jesus Martinez, Sr. Water System Operator, and/or Shinehah Shibata, Water System Operator, PVWMA	10 min
V.	Delivered Water Quality – Brian Lockwood, Hydrologist, PVWMA	10 min
VI.	Nitrate Survey Summary & Soil Salinity Update – Belinda Platts, Agricultural Consultant	15 min
VII.	Irrigating with Recycled Water - Dale Huss, Ocean Mist Farms	10 min
VIII.	<b>Delivered Water Users Feedback</b> – Existing Customers	20 min
IX.	Questions and/or Comments – $All$	20 min
<b>X.</b>	Closing Remarks – Mary Bannister	5 min